

# Examining the Effect of Process-Based, Group-Based Modeling on Development of a System Based on Knowledge Management for Systems of Higher Education(The Case of Urmia Elmofan Higher Education Center)

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**Abstract:** The aim of the present study was to examine the effect of process-based model, group-based model on developing a system based on knowledge management for higher education systems (the case of Urmia Elmofan higher education center). To do so, three dimensions of organizational transformation policy making system, namely, institutionalized mode, process-based model, group-based model were defined and three hypotheses were developed accordingly. To test the hypotheses use was made by two questionnaires i.e. organizational transformational policy making system involving 12 items and knowledge management inventory including 38 items. Having determined the reliability and validity, the researcher distributed the questionnaires among 42 employers working at Urmia Elmofan higher education center. To make statistical analysis on the obtained data, the researcher employed Pearson and regression tests. It was found that process-based model and group-based model had an effect on developing a system based on knowledge management in Urmia Elmofan higher education systems.

**Keywords:** knowledge management, process-based model, group-based model

## Introduction

### Public policy making

When it comes to make investigations on public policy making, one can say that the lack of success can be attributed to the inappropriateness of predicted instruments for its implantation. Hence, the topic of choosing policy making implementation is of great importance for the success of policy making systems. It is worth noting that true decisions should be made to guarantee the success of such procedure. One can possibly assume that public optimum policy making is the one in which appropriate instruments are predicted and determined (Asgharpor & Rahimian, 2012).

There are different interpretations of public policy making implementation which view the subject in a different way. Peters points out that there are four styles of choosing the instruments for implementation. The first group involves the instrumentalists who are dependent on particular world viewing. When it comes to the implementation, this group faces lots of difficulties and there is no success in establishing the policy making since one and only one instrument is not effective for all policy making (Ebahi et al., 2014).

The second style includes individual who are process oriented and do not focus only on the instruments. It is believed in this school that policy making is not one-step, but it is defined as a dynamic

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process which is confirmative. It is in this process that instruments are applied. Therefore, instrument does not mean a determined style for all policy making, but they are determined by policy making procedure.

The third group is categorized by demand oriented individuals who strive to establish a link between problem and instruments in an effort to find out a proper solution. As an example in case, if the policy making deals with agriculture, then the style and instruments should correspond to this topic. Experience and awareness of policy makers play a great role in choosing appropriate instruments.

The forth group's belief is that problems and instrument are integrated and it is not possible that the problem is stated in the firsthand and its implementation is enabled. Instruments determination and problem statement are formed through a politic process. Simultaneous definition and problem statement are the common characteristic of this style (Doran, 2002).

### **Organizational change**

Organizational change is defined as a planned process in culture changing through employing the theory, research, and behavioral sciences. As it can be understood, the afore-mentioned definitions overlap in some respects and they provide particular regards and awareness. All researchers believe that organizational change to a conium involving behavioral and applied sciences which hare used for planned. The consensus is that the ultimate goal is to change the organization or system. The aim of organizational change is organizational effectiveness or individual development (Peters, 2000).

Change and transformation tend to be more reflective in the case of management, they determine the goals and decision man regard what is going to be led. Time and effort are reduced when planned for achieving specific purposes. All organizations embark on achieving two purposes, namely, consistency and development through reconsidering structure changes, technology modification, and human force changes. In case the organization assumes to be consistent in complicated an untrusted condition, it becomes necessary that much more sensitivity is welcomed. the increase of efficiency and effectiveness, reduction of expenses, achieving certain position for planning and decision making, increase of prediction and diversity of products are among the other purposes of organizational change (Tagi Panahi, 2007).

### **The importance of organizational change**

One of the fundamental conditions for establishing change within an organization is the identification of change and the need for it. Usually, the importance is neglected due to the existence of two reasons. Managers and leaders should communicate and share with all stakeholders about the changes in organization and take into consideration the related affairs; otherwise, the impeding forces overcome the imposing forces and the changes face failure. Hanges in humankind are the most problematic changes formed. Managers and leaders are sensitive in this regard. For every individual who tends to make changes in organization from each perspective, patience and reflectivity are so critical. Change is a gradual and time consuming process which occurs through particular scientific process such as the exclusion of incorrect and wrong beliefs, ruling of new values, and establishment of new system (Yazdanpanah, 2012).

The capability of managing the knowledge in economy is of great importance. Initially, knowledge management was defined and considered as a systematic approach for organizing, structuring, managing knowledge distribution, reuse of best procedures and making new activities in a replicated way (Moshabaki & Zarei, 2003).

Knowledge management encompasses a variety of activities which are employed for management, transaction, create or development of intellectual capitals on the major level. Knowledge management is also defined as the intelligent development of processes, instrument, structure, and etc., with an aim of increasing, reconstructing, sharing or improving of using the knowledge which are reflected by structure-based, human-based, and social-based components. Knowledge management is a process which assist the organizations to identify, select and expand the important information and skills which have regarded as organizational memory. Such an affair enables he organziaiton to learn, plan the resolutions and make decisions in an effective fashion.

### **Related studies**

Skirmi (199 conducted a study on knowledge management in state organizations. The possible bond between organization implementation and creation of knowledge along with knowledge transfer was examined in Malaysia Entrepreneurship Development Organization. The results indicated that there was a

significant relationship between some variables and the capability to process knowledge and its transferring. So, it is necessary that some of these aspects are taken into consideration when it comes to implementing knowledge management.

Vig (2000) believes that establishing an organizational culture in a true way is the most important and most complicated affair of knowledge management. Regarding the fact that knowledge management as a human-based notion, the success of knowledge management depends highly on the fact that people are motivated from sharing the knowledge and they enjoy the capability of using their own knowledge.

Jens an Alfman (2004) demonstrated the knowledge culture and employing of knowledge along with the support of some managers' resources, leadership and support training. The type of organizational change and training as well as involving of employers are regarded as the important factors in updating the knowledge management.

### Design of the study

The study was that of survey, applied and descriptive in terms of design, goal, and quality of data collection, respectively. The statistical population comprised of all 42 employers working at Urmia Elmofan Higher Education Center. Since the number of participants were low, total numbering method was utilized. O collect the data use was made by organizational Change Policy Making System questionnaire developed by Ezatpor (2013) and it was modified by the research supervisor based on tie and place conditions. Using Cronbach alpha coefficient, it was found that the reliability of questionnaire was 0.911.

### Inferential statistics analysis

To demonstrate the normal or non-normal state of data distribution, Kolmogorov-Smirnov test was used. In case the level of significance is greater than 0.05, the data are normal; otherwise, the data are distributed in a non-normal fashion.

Table 1. The results of Kolmogorov-Smirnov test for examining the normal distribution of data

	Number	Mean	Kolmogorov- Smirnov	Level of significance
Process model	42	2.96	0.879	0.423
Group model	42	2.84	0.932	0.350
Knowledge model	42	2.76	0.705	0.703

According to the above table, once can say that variables are distributed normally.

The process model regarding the development of a system based on knowledge management has an effect on the systems of Urmia Elmofan Higher Education Center

Table 2. The relationship between knowledge management and process model

	Process model	
Knowledge management	Pearson correlation coefficient	0.480
	Level of significance	0.001
	frequency	42

Based on the obtained analysis, the level of significance was obtained less than 0.05, so null hypothesis s rejected. This carries the meaning that there is a relationship between the process model regarding the development of a system based on knowledge management and the systems of Urmia Elmofan Higher Education Center. In addition, Pearson correlation coefficient is 0.480, so on can state that there is a positive and strong relationship between the two variables.

To test the effect of independent variable on the dependent variable, regression test was employed.

As it is seen in the above table, the level of significance is 0.000, on can say that the test is significant 0.95 level of confidence. Therefore, the process model regarding the development of a system based on knowledge management has an effect on the systems of Urmia Elmofan Higher Education Center. Regarding  $R^2$  determining factor which is the ratio of demonstrated changes by x variable to the total changes is 0.230,

one can say that 0.23% of the changes dealing with knowledge management changes is determined by process model.

Table 3. Variance analysis of the third hypothesis dealing with regression model of proves model and knowledge management or higher education systems

Standard error		Balanced determining factor	R <sub>2</sub> determining factor		R	
0.535		0.211	0.230		0.480	
Level of significance	Level of confidence	F	Mean of squares	Sum of squares	Degree of freedom	Changes resource
0.00	0.95	00.964	3.42	3.42	1	regression
Test result: rejection of null hypothesis			0.287	11.46	40	remaining
			-----	14.88	41	total

Table 4. The coefficients of third hypothesis dealing with process model variable in knowledge management for higher education systems

Test result	Level of significance	Calculated t	$\beta$ slope	variable
Rejection of H <sub>0</sub>	0.001	3.729	1.571	intercept
Rejection of H <sub>0</sub>	0.001	3.459	0.482	process model

So, the mathematical equation pertinent on the effect of process model on developing a system in knowledge management for non-profit higher education systems is as follows:

$$Y = 1.571 + 0.482 X_1$$

Based on Beta standardized coefficient, one can say that one unit increase in process model of developing a system leads to 0.480 increase of knowledge management for the systems of Urmia Elmofan non-profit higher education system. So, one can say that the regression model is significant.

The group model regarding the development of a system based on knowledge management has an effect on the systems of Urmia Elmofan Higher Education Center

Table 5. The relationship between knowledge management and group model

Knowledge management	Group model	
	Pearson correlation coefficient	0.607
	Level of significance	0.000
	frequency	42

Based on the obtained analysis, the level of significance was obtained less than 0.05, so null hypothesis is rejected. This carries the meaning that there is a relationship between the group model regarding the development of a system based on knowledge management and the systems of Urmia Elmofan Higher Education Center. In addition, Pearson correlation coefficient is 0.607, so one can state that there is a positive and strong relationship between the two variables.

To test the effect of independent variable on the dependent variable, regression test was employed.

Table 6. Variance analysis of the third hypothesis dealing with group model of proves model and knowledge management or higher education systems

Standard error		Balanced determining factor	R <sub>2</sub> determining factor		R	
0.485		0.352	0.368		0.607	
Level of significance	Level of confidence	F	Mean of squares	Sum of squares	Degree of freedom	Changes resource
0.000	0.95		5.47	5.47	1	regression
Test result: rejection of null hypothesis		23.292	0.235	9.41	40	remaining
			-----	14.88	41	total

As it is seen in the above table, the level of significance is 0.000, on can say that the test is significant 0.95 level of confidence. Therefore, the group model regarding the development of a system based on knowledge management has an effect on the systems of Urmia Elmofan Higher Education Center. Regarding  $R^2$  determining factor which is the ratio of demonstrated changes by x variable to the total changes is 0.368, one can say that 36.8% of the changes dealing with knowledge management changes is determined by group model.

Table 7. The coefficients of third hypothesis dealing with group model variable in knowledge management for higher education systems

Test result	Level of significance	Calculated t	$\beta$ slope	variable
Rejection of $H_0$	0.000	6.437	1.744	intercept
Rejection of $H_0$	0.000	4.826	0.441	process model

So, the mathematical equation pertinent on the effect of group model on developing a system in knowledge management for non-profit higher education systems is as follows:

$$Y = 1.744 + 0.441X_1$$

Based on Beta standardized coefficient, one can say that one unit increase in process model of developing a system leads to 0.480 increase of knowledge management for the systems of Urmia Elmofan non-profit higher education system. So, one can say that the regression model is significant.

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